REMARKS

In the Official Action mailed on **08/09/2007**, the Examiner reviewed claims 1-20. Claims 4, 6, 14, and 16 were rejected under 35 U.S.C. § 112. Claims 1-20 were rejected under 35 U.S.C. § 102(b) based on Bauerle (US Pat. No. 4992942 A hereinafter "Bauerle").

Rejections under 35 U.S.C. § 112

Examiner rejected claims 4 and 14 as being incomplete for the essential elements. Applicant has cancelled claims 4 and 14 without prejudice.

Examiner rejected claims 6 and 16 as being indefinite. Accordingly, Applicant has amended claims 6 and 16 so that they are definite by changing the "or" to an "and."

Examiner rejected claims 6 and 16 as not having sufficient antecedent basis. Accordingly, Applicant has amended claims 6 and 16 so that they have sufficient antecedent basis by correcting a typographical error so that claims 6 and 16 are dependent on their (respectively) correct claims. Applicant has also corrected a typographical error in claims 5 and 15.

Applicant respectfully submits that dependent claims 6 and 16 are on condition for allowance.

Rejections under 35 U.S.C. § 112

Examiner rejected claims 1-20 as being anticipated by Bauerle. Applicant respectfully disagrees. Bauerle does not disclose a simulation model that includes profit or loss.

Specifically, Bauerle discloses a computer control system that chooses a decision that has the highest **probability** of producing a desired result (see Bauerle, C7: L27-30 and C9:L30-33). In sharp contrast, embodiments of the

present invention teach using a simulation model that comprises **utility** function (see instant application, PAGE3:L11-17). This function can then be used to select a decision (action) that has a highest **expected utility**. See instant application PAGE3:L15-18. Utilities are real-valued functions that capture positive or negative profit (or cost). See instant application PAGE3:L11-14. For a more thorough definition of utility in decision theory see http://en.wikipedia.org/wiki/Utility_function.

Bauerle does disclose a term he calls "utility" but he does not use the term as is standard in decision-theory. Instead, Bauerle uses it to mean a "crop response function" (see Bauerle, C9:L33-34). The key point is that for Bauerle the utility function is a **probability** function which is defined throughout Bauerle:

- "...the crop response function, u(i,j), corresponds to the best crop response. Additionally, value 1-u(i,j) corresponds to the worst crop response...." See Bauerle, C18:L55-58.
- "The utility function is an indifference function which relates the subject's indifference between having a particular outcome for certain and a chance, p, at the best outcome." See Bauerle, C18:63-66.
- "...u(i,j) is the crop response function derived from the historical expertise of growing the crop using the ith nutrient recipe and the jth level of solar irradiance."
- Bauerle, C63-68 clearly show that the utility function is a probability function (i.e. between 0 and 1) as does the idea that if u(i,j), corresponds to the best crop response, 1-u(i,j) corresponds to the worst crop response (see above).

In contrast, embodiments of the present invention can be used to make decisions about the expected **utility** (in the standard sense of this term). For example, one can make decisions that minimize the expected cost (see instant

invention, Figs 2-4). Cost might correspond to gasoline usage. Or, cost might correspond to the cost of nutrients for a specific plant. Note that the decisions shown in instant application Figs 2-4 include probabilities, which might correspond to different road choices but they also include utilities, which are completely separate from the probabilities. Thus embodiments of the present invention combine both probabilities and utilities (in the standard sense). Whereas Bauerle's use of utilities as probabilities precludes such utility based (in the standard sense) decision-making as it reasons **only** about probabilities. For example, there is no way to take into account the cost of nutrients when making decisions in Bauerle's method but there is in the present invention.

In short, nothing within Bauerle suggests a utility function that includes profit or loss.

Accordingly, Applicant has amended independent claims 1 and 11 to clarify that the simulation model includes a utility function that encodes profit and loss. These amendments find support in instant application, PAGE3:L11-14). No new matter has been added.

Hence, Applicant respectfully submits that independent claims 1 and 11 as currently amended are in condition for allowance. Applicant also submits that claims 2-3 and 5-10, which depend upon claim 1, and claims 12-13 and claims 15-20, which depend upon claim 11, are for the same reasons in condition for allowance and for reasons of the unique combinations recited in such claims.

CONCLUSION

It is submitted that the present application is presently in form for allowance. Such action is respectfully requested.

Respectfully submitted,

By _____
Mukesh Dalal (inventor)

_____
Armand Prieditis (inventor)

Date: Nov 8, 2007

Mukesh Dalal
Armand Prieditis
Lookahead Decisions Inc.
1533 Rio Grande St.
Davis, CA 95616
Tel: (530) 852-0371
Email: prieditis@lookaheaddecisions.com